

Remarks

Applicants thank the Examiner for carefully considering the subject application. These remarks are responsive to the Office Action mailed July 27, 2006.

Applicants disagree with the two combinations (each having a combination of three applied references) set forth in the standing rejection, and Applicants incorporate the previous arguments already set forth as to why the combinations are improper.

Applicants have nevertheless amended the claims to advance prosecution of the subject application. Specifically, Claim 43 recites:

43. (previously presented) A method for controlling an engine having an intake manifold and an outlet control device coupled to the manifold for controlling flow exiting the manifold and entering at least one cylinder of the engine, the engine further having an inlet control device for controlling flow entering the manifold, the outlet control device being at least one of the intake or exhaust valves of the cylinder, the method comprising:
- during engine operation,
 - determining a desired engine output;
 - calculating a desired cylinder charge based on said desired engine output;
 - adjusting at least valve lift of the outlet control device to provide said desired cylinder charge; and
 - adjusting the inlet control device based on an engine operating parameter; and
 - further adjusting the inlet control device to control engine output when said valve lift is unable to provide the desired operation.

In this way, it is possible to advantageously control engine operation using the outlet control device when available, and then revert to reliance on the inlet control device when the outlet control device is unable to provide desired operation. For example, the outlet control device (valve lift) may have reached a physical limit (e.g., due to end-stops, degradation, etc.), and thus the inlet control device may be advantageously used in this case. See Applicant specification as originally filed at page 9 and elsewhere, for example.

Applicants can find no such coordinated operation in the cited references, and can find no recognition of compensation for limited valve lift operation in terms of engine output control.

Likewise, with regard to new dependent claim 65, it further specifies that the inlet control device is adjusted to control operation when the outlet control device (valve lift) is unable to control desired cylinder charge operation. For example, the inlet control device may be adjusted based on manifold pressure when the outlet control device provides control. But, when the outlet control device is unable to provide the desired charge, for example, the inlet control device may be relied upon to control cylinder charge. Again, in this way, advantageous operation may be achieved.

Further, claim 44 now recites:

44. (previously presented) A method for controlling an engine having an intake manifold and an outlet control device coupled to the manifold for controlling flow exiting the manifold and entering at least one cylinder of the engine, the engine further having an inlet control device for controlling flow entering the manifold, the outlet control device being at least one of the intake or exhaust valves of the cylinder, the method comprising:

- during engine operation,

- determining a desired engine output based on a desired engine speed and an actual engine speed;

- calculating a desired cylinder charge based on said desired engine output;

- adjusting at least a valve lift of the outlet control device to provide said desired cylinder charge; and

- adjusting the inlet control device based on an engine operating parameter, where the inlet control device is adjusted differently depending an ability of the outlet control device to control engine output.

Again, by adjusting the inlet control device differently depending on the ability of the outlet control device, is it possible to maintain engine operation even when the outlet control device (valve lift) may have reached a physical limit (e.g., due to end-stops, degradation, etc.).

Based on the foregoing comments, the above-identified application is believed to be in condition for allowance, and such allowance is courteously solicited. If any further amendment is necessary to advance prosecution and place this case in allowable condition, the Examiner is courteously requested to contact the undersigned by fax or telephone at the number listed below.

Please charge any cost incurred in the filing of this Amendment, along with any other costs, to Deposit Account No. 06-1510. If there are insufficient funds in this account, please charge the fees to Deposit Account No. 06-1505.

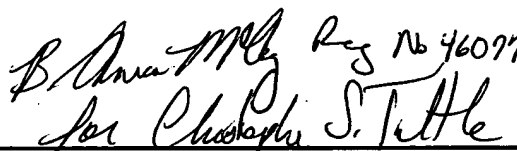
CERTIFICATE OF MAILING

I hereby certify that this correspondence is being sent via first class mail addressed to Mail Stop AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on October 27, 2006.



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